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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------------|------------------------|
| 10/804,638 | 03/19/2004 | James Marion Vau | 120742 | 7745 |
| 7590 James P. Davidson, Esq. 8375 Ashmont Way Mason, OH 45040 | | | EXAMINER EVANS, GEOFFREY S | |
| | | | ART UNIT 1725 | PAPER NUMBER |
| | | | MAIL DATE 06/27/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|----------------------------|--|
| Office Action Summary | Application No. 10/804,638 | Applicant(s) VAU ET AL. | |
| | Examiner Geoffrey S. Evans | Art Unit 1725 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,2,13-16,21 and 22 is/are rejected.
7) ☒ Claim(s) 3-12 and 17-20 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1,2, 16,21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue in Japan Patent No. 60-259,319 in view of Takeda et al. in Japan Patent No. 6-8,060-A. Inoue discloses a second mechanism (elements 35,36,34 in figure 3) to automatically align the electrode (element 6) with a workpiece (element 7). Takeda teaches a first mechanism (elements 15,23,26,25,24,19,21) that secures the workpiece into a fixed position for machining. It would have been obvious to adapt Inoue in view of Takeda et al. to provide this to precisely machine the workpiece. It is inherent that for discharge machining to occur between an electrode and a workpiece they must

be at differing electric potentials. Therefore even the skilled technician would know that the electrode must be electrically insulated from the workpiece.

4. Claims 13,14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue in view of Takeda et al. as applied to claim 1 above, and further in view of Krenz in U.S. patent No. 6,369,343. Krenz teaches machining the sides Of an airfoil (turbine blade) and using a second electrode for machining the opposite side of a workpiece. It would have been obvious to adapt Inoue in view of Takeda et al. and Krenz to provide a third mechanism identical to the second mechanism to properly machine features on both sides of a turbine blade.

5. Applicant's arguments filed 5 April 2007 have been fully considered but they are not persuasive. The disclosures of Inoue and Takeda et al. are sufficient to a person of ordinary skill in the art who knows that it is necessary to electrically insulate the electrode from the workpiece. The Takeda et al. reference clearly teaches automatic alignment by securing the workpiece and moving the electrode in accordance with a defined mechanism. One would further be motivated by the teachings of Krenz to vertically mount the workpiece for machining both sides of the workpiece in a desired position.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


7. Claims 3-12 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gangopadhyay et al. in U.S. Patent No. 6,485,630 in the closely related art of electrochemical machining states (on column 2, lines 42-47) "Such slight modification usually involve electrically insulating the cutting tool holder 15 and the workpiece from the rest of the machining apparatus 11; this may be accomplished by inserting a non-conductive ply of material 16, i.e. rubber, at the appropriate locations". Pertler in U.S. Patent No. 5,028,755 discloses electrically insulating the electrode (see column 3, lines 16-20). Inoue in U.S. Patent No. 4,430,544 discloses an electrically insulating plate (element 22, see column 5, lines 50-52).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S. Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on (571)-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Geoffrey S Evans
Primary Examiner
Art Unit 1725

GSE